

November 14, 2016

Tom Moe
USS Corporation
P.O. Box 417
8771 Park Ridge Dr
Mountain Iron, MN 55768

RE: Project: USS MinTac NPDES-Line 3 Wkly
Pace Project No.: 1277876

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on October 26, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melisa M Woods
melisa.woods@pacelabs.com
Project Manager

Enclosures

cc: Cory Hertling
Terri Sabetti, NTS



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: USS MinTac NPDES-Line 3 Wkly

Pace Project No.: 1277876

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

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SAMPLE SUMMARY

Project: USS MinTac NPDES-Line 3 Wkly

Pace Project No.: 1277876

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1277876001	WS-002 Scrubber Make-Up	Water	10/26/16 09:00	10/26/16 16:20
1277876002	WS-003 Thickner Overflow	Water	10/26/16 08:50	10/26/16 16:20

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SAMPLE ANALYTE COUNT

Project: USS MinTac NPDES-Line 3 Wkly

Pace Project No.: 1277876

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1277876001	WS-002 Scrubber Make-Up	EPA 200.7	CSD	3	PASI-V
		EPA 300.0	DMB	1	PASI-V
1277876002	WS-003 Thickner Overflow	EPA 200.7	CSD	3	PASI-V
		EPA 300.0	DMB	1	PASI-V

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ANALYTICAL RESULTS

Project: USS MinTac NPDES-Line 3 Wkly

Pace Project No.: 1277876

Sample: WS-002 Scrubber Make-Up Lab ID: 1277876001 Collected: 10/26/16 09:00 Received: 10/26/16 16:20 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	113	mg/L	5.0	0.29	10	11/07/16 16:03	11/08/16 14:35	7440-70-2	
Magnesium, Dissolved	205	mg/L	5.0	0.67	10	11/07/16 16:03	11/08/16 14:35	7439-95-4	
Total Hardness, Dissolved	1130	mg/L	100	50.0	10	11/07/16 16:03	11/08/16 14:35		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	691	mg/L	20.0	10.0	10		11/04/16 17:23	14808-79-8	

Sample: WS-003 Thickner Overflow Lab ID: 1277876002 Collected: 10/26/16 08:50 Received: 10/26/16 16:20 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	698	mg/L	5.0	0.29	10	11/07/16 16:03	11/08/16 14:38	7440-70-2	
Magnesium, Dissolved	24.7	mg/L	5.0	0.67	10	11/07/16 16:03	11/08/16 14:38	7439-95-4	
Total Hardness, Dissolved	1840	mg/L	100	50.0	10	11/07/16 16:03	11/08/16 14:38		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	1440	mg/L	40.0	20.0	20		11/04/16 17:44	14808-79-8	

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QUALITY CONTROL DATA

Project: USS MinTac NPDES-Line 3 Wkly

Pace Project No.: 1277876

QC Batch: 99413

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 MET Dissolved

Associated Lab Samples: 1277876001, 1277876002

METHOD BLANK: 394646

Matrix: Water

Associated Lab Samples: 1277876001, 1277876002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.50	0.029	11/08/16 14:19	
Magnesium, Dissolved	mg/L	ND	0.50	0.067	11/08/16 14:19	

LABORATORY CONTROL SAMPLE: 394647

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	50	49.3	99	85-115	
Magnesium, Dissolved	mg/L	50	48.6	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394648

394649

Parameter	Units	1278321001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	303	50	50	358	360	109	112	70-130	0	20	
Magnesium, Dissolved	mg/L	112	50	50	161	162	97	99	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394650

394651

Parameter	Units	1278383001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	38.6	50	50	89.8	88.1	102	99	70-130	2	20	
Magnesium, Dissolved	mg/L	65.9	50	50	116	116	101	100	70-130	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: USS MinTac NPDES-Line 3 Wkly

Pace Project No.: 1277876

QC Batch: 99307

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1277876001, 1277876002

METHOD BLANK: 394259

Matrix: Water

Associated Lab Samples: 1277876001, 1277876002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	1.0	11/04/16 15:41	

LABORATORY CONTROL SAMPLE: 394260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	48.4	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394261 394262

Parameter	Units	1278435001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	15.9	50	50	63.2	63.0	95	94	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394401 394402

Parameter	Units	1278127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	52.9	100	100	147	147	94	95	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: USS MinTac NPDES-Line 3 Wkly

Pace Project No.: 1277876

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USS MinTac NPDES-Line 3 Wkly

Pace Project No.: 1277876

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1277876001	WS-002 Scrubber Make-Up	EPA 200.7	99413	EPA 200.7	99475
1277876002	WS-003 Thickner Overflow	EPA 200.7	99413	EPA 200.7	99475
1277876001	WS-002 Scrubber Make-Up	EPA 300.0	99307		
1277876002	WS-003 Thickner Overflow	EPA 300.0	99307		

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CHAIN-OF-CUSTODY / Analytical Request
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant files

IM0# : 1277876

PM: MMW Due Date: 11/09/16
CLIENT: USS CORP

Section A
Required Client Information:

Section B
Report Project Information:


Section C
Invoice Information:

Company:	USS Corporation	Report To:	Tom Moe	Attention:	
Address:	P.O. Box 417	Copy To:		Company Name:	
City:	M. Iron, MN 55768	Purchase Order #:		Address:	
Email:		Project Name:	NFDES-LINE 3 Wkly	Pace Quote:	
Phone:		Project #:		Pace Project Manager:	heather.zika@pacelabs.com
Requested Due Date:				Pace Profile #:	

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Sample IDs must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION		# OF CONTAINERS		Preservatives		Analyses Test		Y/N		Requested Analysis Filtered (Y/N)		Residual Chlorine (Y/N)		LF LF	
				DATE	TIME	DATE	TIME	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	LAB FILTERED: SO4	Lab FILTERED: Ca,Mg,Hard				
1	WS-002 Scrubber Make-Up	WT	10-26-16 09:00	10-26-16 09:00	09:50											X	X				
2	WS-003 Thicker Overflow	WT	10-26-16 08:50	10-26-16 09:50												X	X				
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	Paul North, Jr.
SIGNATURE of SAMPLER:	Paul North, Jr.
DATE Signed:	10-26-16

TEMP in C	
Received on Ice (Y/N)	
Custody Sealed Cooler (Y/N)	
Samples Intact (Y/N)	

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:

Project #:

WO#: 1277876

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other:

PM: MMW

Due Date: 11/09/16

CLIENT: USS CORP

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No

Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other:

Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808

Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.8

Cooler Temp Corrected °C: 3.1

Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 5°C

Correction Factor: 10.3

Date and Initials of Person Examining Contents: CA 10-26-16

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted:

Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)